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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/850,040	05/07/2001	George E. Carter	01 P8145 US	9560

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Siemens Corporation
Attn: Elsa Keller, Lega Administrator
Intellectual Property Department
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Iselin, NJ 08830

EXAMINER

SINGH, RAMNANDAN P

ART UNIT	PAPER NUMBER
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2614

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/14/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 09/850,040	Applicant(s) CARTER ET AL.	
	Examiner Ramnandan Singh	Art Unit 2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5,8-18 and 22-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,3,5,8-12,14,15,17,18,23,24,26,31 and 32 is/are allowed.
- 6) ☒ Claim(s) 27-30 is/are rejected.
- 7) ☒ Claim(s) 2,4,13,16, 22, 25, 27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input checked="" type="checkbox"/> Other: <u>Reasons for Allowance</u> . |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 27-30 have been considered but are not persuasive.

(i) Applicant's argument—"Applicants respectfully submit that the "data signal embodied in a carrier wave" limitation is found only in claim 30, and not in claims 27-29. Thus, any alleged defect arising from that limitation should affect only claim 30, and not claims 27-29 as well" on page 11, lines 11-14.

Examiner's response---Examiner respectfully disagrees. Claim 27 recites " a computer readable medium that stores the computer codes" in line 12. Since the Applicants' specification defines the computer readable storage medium as "that can be a data signal embodied in a carrier [Specification; Page 8, lines 23-24], the Applicants' arguments are not valid.

(ii) Applicant's argument----"The Court of Appeals for the Federal Circuit has indicated that the "phrase 'subject matter' is not limited to tangible articles or objects, but includes intangible subject matter, such as data or signals, representative of or constituting physical activity or objects" on page 11, lines 18-21.

Examiner's response-----In response to the above argument, Applicants are respectfully directed to the USPTO document, "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" Published in the Official

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Gazette, dated Nov. 22, 2005. As a result, claims 27-30 stand rejected under 35 USC 101.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 27-30 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. This is because claim 27 recites the limitation “a computer readable medium” that includes **data signal** embodied in a carrier wave [Specification, page. 8, lines 23-24; and claim 30]. Claims 28 and 29 being dependent from claim 27 are also rejected.

Claim Objections

4. Claims 2, 4, 13, 16, 22, 25 and 27 are objected to because of the following informalities: There are typographical errors in these claims.

Claim 2 recites the limitation “comparing the **amplitude** of sounds in the frequency domain conversion of the digital signals; and determining noise is present by determining whether the **amplitude** in a predetermined number of bands **crosses** a threshold” in lines 10-13. Replace the word “**amplitude**” with the word “**amplitudes**”; and the word “**crosses**” with the word “**cross**”.

Claim 4 recites the limitation “comparing the **amplitude** of sounds in low, middle and high bands in the frequency domain conversion of the digital signals” in lines 10-11.

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Replace the word “**amplitude**” with the word “**amplitudes**”.

Claim 4 recites the limitation “comparing the amplitude of sounds in a third band to first and second bands” in lines 6-7. Replace the term “first and second bands” with the term “**the amplitudes of sounds** in first and second bands”.

Claim 16 recites the limitation “ if the amplitude of sounds in a middle band **exceed the amplitude** of sounds in low and high bands” in lines 6-7. Replace the term “**exceed the amplitude** “ with the term “**exceeds the amplitudes**”.

Claim 22 recites the limitation “if the **amplitude** of sounds in a plurality of frequency bands in the frequency domain conversion of the digital signals cross a threshold” in lines 6-7. Replace the word “**amplitude**” with the word “**amplitudes**”.

Claim 25 recites the limitation “by examining **amplitudes** in a plurality of frequency bands” in lines 6-7. Replace the word “**amplitudes** “ with the term “**amplitudes of sounds** ”.

Claim 27 recites the limitation “ if the amplitude of sounds in a middle band **exceed the amplitude** of sounds in low and high bands” in lines 8-9. Replace the term “**exceed the amplitude** “ with the term “**exceeds the amplitudes**”.

For this Office actions, Examiner assumes these corrections.

Appropriate correction is required.

Allowable Subject Matter

5. Claims 1, 3, 5, 8-12, 14, 15, 17, 18, 23-24, 26, 31 and 32 are allowable.

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6. Claims 2, 4, 13, 16, 22, 25 would be allowable, if the objections are overcome as suggested above.

7. Claims 27-30 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 101, set forth in this Office action, and if claim 27 were rewritten to overcome the objection as suggested above.

8. The following is a statement of reasons for the indication of allowable subject matter:

Independent claim 1 recites a computer implemented method of enhancing sound quality for computer telephony systems and limitations for the following: "detecting whether noise is present in the frequency domain conversion of the digital signals by examining amplitudes in a plurality of frequency bands and determining that noise is present by determining whether the amplitudes of the plurality of frequency bands cross a threshold". The prior art of record does not teach these limitations.

Independent claim 2 recites a computer implemented method of enhancing sound quality for computer telephony systems and limitations for the following: "detecting whether noise is present comprises: comparing the amplitudes of sounds in the frequency domain conversion of the digital signals; and determining noise is present by determining whether the amplitudes in a predetermined number of bands cross a threshold". The prior art of record does not teach these limitations.

Independent claim 3 recites a computer implemented method of enhancing sound quality for computer telephony systems and limitations for the following:

“detecting whether noise is present in the frequency domain conversion of the digital signals by examining amplitudes in a plurality of frequency bands; comparing the amplitude of sounds in a first band to the amplitude of sounds in a second band; and determining noise is present by determining whether the amplitudes of sounds in the first and second bands are substantially the same”. The prior art of record does not teach these limitations.

Independent claim 4 recites a computer implemented method of enhancing sound quality for computer telephony systems and limitations for the following:

“comparing the amplitudes of sounds in low, middle and high bands in the frequency domain conversion of the digital signals; and determining noise is present if the amplitudes of sounds in the low, middle and high bands are substantially the same”. The prior art of record does not teach these limitations.

Independent claim 12 recites a computer implemented method of enhancing sound quality for computer telephony systems and limitations for the following:

“detecting whether noise is present in the frequency domain conversion of the digital signals if the amplitudes of sounds in first and second bands are substantially the same; wherein the first; wherein the first band comprises sounds outside the range of a

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human voice and the second band comprises sounds within the range of the human voice". The prior art of record does not teach these limitations.

Independent claim 13 recites a computer implemented method of enhancing sound quality for computer telephony systems and limitations for the following: "comparing the amplitude of sounds in a third band to the amplitudes of sounds in first and second bands; and determining noise is present if the amplitudes of sounds in the first, second and third bands are substantially the same". The prior art of record does not teach these limitations.

Independent claim 16 recites a computer implemented method of enhancing sound quality for computer telephony systems and limitations for the following: "detecting whether noise is present in the frequency domain conversion of the digital signals if the amplitude of sounds in a middle band exceeds the amplitudes of sounds in low and high bands by a predetermined amount". The prior art of record does not teach these limitations.

Independent claim 22 recites a computer implemented method of enhancing sound quality for computer telephony systems and limitations for the following: "detecting whether noise is present in the frequency domain conversion of the digital signals if the amplitudes of sounds in a plurality of frequency bands cross a threshold over a time interval". The prior art of record does not teach these limitations.

Independent claim 25 recites a computer implemented method of enhancing sound quality for computer telephony systems and limitations for the following: “detecting whether noise is present in the frequency domain conversion of the digital signals for a first specific time period by examining amplitudes of sounds in a plurality of frequency bands, the detecting including determining if the amplitudes in the plurality of frequency bands exceed a threshold”. The prior art of record does not teach these limitations.

Independent claim 27 recites a computer program that enhances sound quality for computer telephony systems and limitations for the following: “ computer code that detects whether noise is present in the frequency domain conversion of the digital signals if the amplitude of sounds in a middle band exceeds the amplitudes of sounds low and high bands by a predetermined amount.” The prior art of record does not teach these limitations.

Independent claim 31 recites a computer implemented method of enhancing sound quality for computer telephony systems and limitations for the following: “detecting whether noise is present in the frequency domain conversion of the digital signals by determining whether amplitudes of a plurality of frequency bands of the digital signals are greater than or less than a threshold”. The prior art of record does not teach these limitations.

New search updates revealed no other prior art which teaches the limitations in the context of the claims. Therefore, claims 1-5, 8-18, 22-32 are indicated allowable.

Conclusion

9. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramnandan Singh whose telephone number is (571) 272-7529. The examiner can normally be reached on M-TH (8:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fan Tsang can be reached on 571-272-7547. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ramnandan Singh
Examiner
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A handwritten signature in black ink, appearing to read 'Ramnandan Singh', written over a horizontal line.